

ABSTRACT

This invention provides a negative cache management system and method for controlling valid and invalid memory component identifiers, and, thereby, accelerates performance of relatively high speed memory components, including hardware and software systems, that operate with storage devices. This invention includes (a) logic to check the cache to determine if a received memory component identifier is invalid, (b) logic to add the invalid memory component identifier to the cache, such as adding a file identifier to the cache when a search in a directory for a file name is unsuccessful, (c) logic to monitor new memory component identifiers being created and to remove an entry from the invalid list if that file identifier later becomes valid, (d) logic to monitor memory component identifiers being deleted or moved and to add an entry from the invalid list if that file identifier becomes invalid, (e) logic to manage the most frequently used invalid memory component identifiers, and (f) logic to manage the most recently used invalid memory component identifiers.

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